# dynawave®

## PRECISION MICROWAVE COAXIAL CONNECTORS
## SMA • SSMA • GLASS SEAL • ACCESSORIES

ADVANCED
TECHNOLOGY
MARKETING
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Chelmsford, MA 01824
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# intro

Since its beginning in 1985, Dynawave has provided system and component manufacturers with high quality, reliable precision coaxial connectors, adapters, and cable assemblies that meet electrical performance, mechanical durability, and environmental requirements of MIL-C-39012.

Dynawave produces a broad range of precision coaxial connectors and adapters in SMA, SSMA, TNC, N, SC, Blind Mate-Dynamate™ and Dynamite™ (which are completely compatible with OSP*, BMA and OSSP*), interconnecting components-Dynaconn,™ and specializes in MIC field-replaceable, hermetics and cable types. This complete manufacturing capability is complemented by a sales force that provides the best customer service possible. Our R&D program has the design expertise and aggressiveness to respond to the increasing sophistication and constant improvement in microwave systems.

Our CAD system is supported by the latest in production and special-process equipment, automatic and semi-automatic machining equipment, and test equipment such as HP 8510 and Wiltron Network Analyzers (from 10 MHz to 40 GHz) and a Varian 874 Leak Detector. All parts are assembled in-house. A fully equipped model shop enables us to react quickly to your special requirements.

Most operations are computerized resulting in better control and increased efficiency. We stress quality control from initial contract planning and work instructions through purchasing, handling, machining, assembly and fabrication, testing and shipping. Developed in accordance with MIL-Q-9858 our inspection system is per MIL-I-45208, and our calibration system per MIL-C-45662.

At Dynawave, we know the service and support we provide for our products are second to none and we welcome the opportunity to assist you with application-engineering requirements.

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*Trademark of M/A-COM Omni Spectra, Inc.

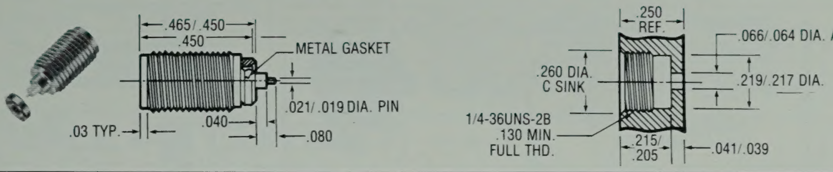
Specifications are subject to change without notice.

# SMA

## HERMETICALLY SEALED SPARK PLUGS

| PART NUMBER | FINISH |
|---|---|
| 9930-0431-6420 | GOLD PLATED |
| 9930-0431-6220 | PASSIVATED |

VSWR (MAX.) 1.05 + .006 × FGHz

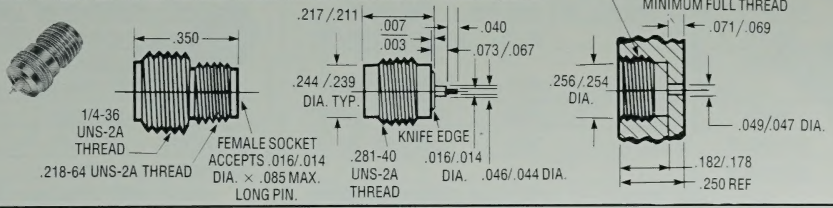


## FIELD REPLACEABLE HERMETICALLY SEALED

| PART NUMBER | FINISH |
|---|---|
| 9933-0431-6415 | GOLD PLATED |
| 9933-0431-6215 | PASSIVATED * |

*CONNECTOR BODY PASSIVATED
HERMETIC BODY & PIN
GOLD PLATE OVER NICKEL

VSWR (MAX.) 1.04 + .005 × FGHz



### MATERIALS AND FINISHES

Body: Stainless steel; gold over nickel plate *or* passivated
Contact: Beryllium copper, heat treated; gold-plated
Insulator: Teflon®
Metal Gasket: Cold rolled steel, case hardened; nickel-plated
Pin: Kovar; gold over nickel plate
Glass: Corning 7070

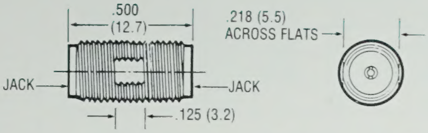
### GENERAL DESIGN SPECIFICATIONS

Interface Dimensions: MIL-C-39012/SMA Series
Frequency Range: DC to 26.5 GHz
Insertion Loss, db maximum: .04 db × $\sqrt{\text{FGHz}}$
Hermeticity, minimum leak rate: 1 × $10^{-8}$ cc/sec
RF leakage, minimum db down: 100 db − FGHz
Temperature Range: −65 °C to +165 °C
Construction: No internal solder connections, mounting temperature 250 °C maximum

## ADAPTERS

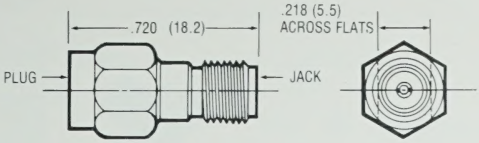
| PART NUMBER | 1100-9999-6250 |
|---|---|

**JACK TO JACK**



| PART NUMBER | 1100-9899-6272 |
|---|---|

**PLUG TO JACK**



### MATERIALS AND FINISHES

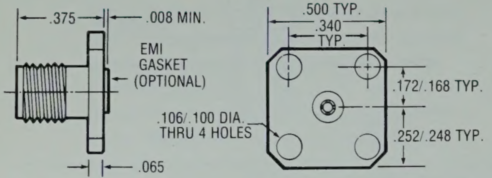
Body and body components: Stainless steel; passivated
Contact: Beryllium copper, heat treated; gold-plated
Insulator: Teflon®
Gasket: Silicon rubber

### GENERAL DESIGN SPECIFICATIONS

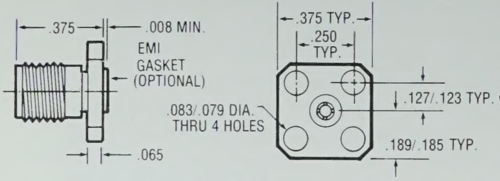
Interface Dimensions: MIL-A-55339/SMA
Frequency Range: DC to 27.0 GHz
VSWR, maximum: 1.04 + .005 × FGHz
Insertion Loss, db maximum: .035 db × $\sqrt{\text{FGHz}}$
Captivated, contact and insulator: 6.0 lbs. minimum
RF leakage, minimum db down: 100 db − FGHz
Temperature Range: −65 °C to +165 °C

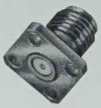
# SMA CONNECTORS

## SMA JACK (FEMALE SOCKET CONTACT)

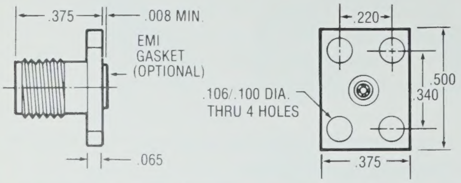


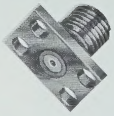
| EMI GASKET | ACCEPTS PIN DIA. | MAX. FREQ. GHZ | PART NUMBER |
|---|---|---|---|
| WITH | .016/.011 | 26.5 | 9954-0781-6215 |
| WITH | .013/.011 × .060 max. lg. | 46.0 | 9954-0781-6290 |
| WITH | .021/.017 | 26.5 | 9954-0781-6220 |
| WITHOUT | .016/.011 | 26.5 | 9954-0081-6215 |
| WITHOUT | .013/.011 × .060 max. lg. | 46.0 | 9954-0081-6290 |
| WITHOUT | .021/.017 | 26.5 | 9954-0081-6220 |
| WITHOUT | .037/.035 | 26.5 | 9954-0081-6236 |



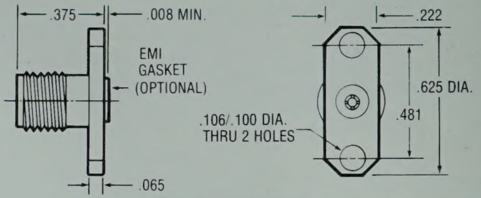


| EMI GASKET | ACCEPTS PIN DIA. | MAX. FREQ. GHZ | PART NUMBER |
|---|---|---|---|
| WITH | .016/.011 | 26.5 | 9954-0781-6217 |
| WITH | .021/.017 | 26.5 | 9954-0781-6227 |
| WITHOUT | .016/.011 | 26.5 | 9954-0081-6217 |
| WITHOUT | .021/.017 | 26.5 | 9954-0081-6227 |

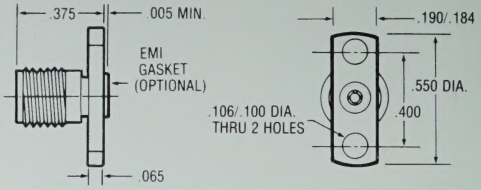




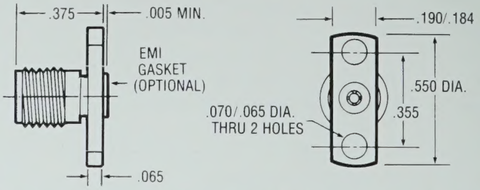
| EMI GASKET | ACCEPTS PIN DIA. | MAX. FREQ. GHZ | PART NUMBER |
|---|---|---|---|
| WITH | .016/.011 | 26.5 | 9954-0781-6219 |
| WITH | .021/.017 | 26.5 | 9954-0781-6229 |
| WITHOUT | .016/.011 | 26.5 | 9954-0081-6219 |
| WITHOUT | .021/.017 | 26.5 | 9954-0081-6229 |



| EMI GASKET | ACCEPTS PIN DIA. | MAX. FREQ. GHZ | PART NUMBER |
|---|---|---|---|
| WITH | .016/.011 | 26.5 | 9952-0781-6215 |
| WITH | .013/.011 × .060 max. lg. | 46.0 | 9952-0781-6290 |
| WITH | .021/.017 | 26.5 | 9952-0781-6220 |
| WITHOUT | .016/.011 | 26.5 | 9952-0081-6215 |
| WITHOUT | .013/.011 × .060 max. lg. | 46.0 | 9952-0081-6290 |
| WITHOUT | .021/.017 | 26.5 | 9952-0081-6220 |
| WITHOUT | .037/.035 | 26.5 | 9952-0081-6236 |

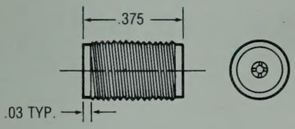


| EMI GASKET | ACCEPTS PIN DIA. | MAX. FREQ. GHZ | PART NUMBER |
|---|---|---|---|
| WITH | .016/.011 | 26.5 | 9952-0781-6214 |
| WITH | .013/.011 × .060 max. lg. | 46.0 | 9952-0781-6294 |
| WITH | .021/.017 | 26.5 | 9952-0781-6224 |
| WITHOUT | .016/.011 | 26.5 | 9952-0081-6214 |
| WITHOUT | .013/.011 × .060 max. lg. | 46.0 | 9952-0081-6294 |
| WITHOUT | .021/.017 | 26.5 | 9952-0081-6224 |

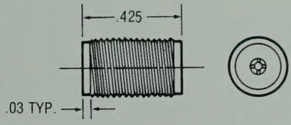


| EMI GASKET | ACCEPTS PIN DIA. | MAX. FREQ. GHZ | PART NUMBER |
|---|---|---|---|
| WITH | .016/.011 | 26.5 | 9952-0781-6213 |
| WITH | .021/.017 | 26.5 | 9952-0781-6223 |
| WITHOUT | .016/.011 | 26.5 | 9952-0081-6213 |
| WITHOUT | .021/.017 | 26.5 | 9952-0081-6223 |

# SMA THREADED BARREL (FEMALE SOCKET CONTACT)

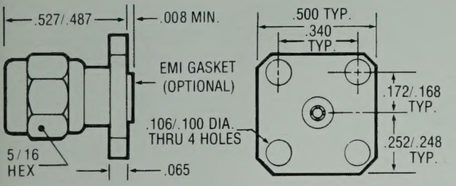


| EMI GASKET | ACCEPTS PIN DIA. | MAX. FREQ. GHZ | PART NUMBER |
|---|---|---|---|
| WITHOUT | .016/.011 | 26.5 | 9930-0081-6215 |
| WITHOUT | .021/.017 | 26.5 | 9930-0081-6220 |

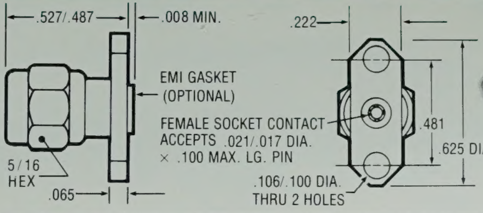


| EMI GASKET | ACCEPTS PIN DIA. | MAX. FREQ. GHZ | PART NUMBER |
|---|---|---|---|
| WITHOUT | .016/.011 | 26.5 | 9930-0081-6212 |
| WITHOUT | .021/.017 | 26.5 | 9930-0081-6222 |

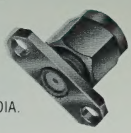
# SMA PLUG (MALE PIN CONTACT)



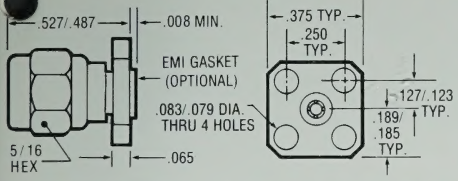
| EMI GASKET | ACCEPTS PIN DIA. | MAX. FREQ. GHZ | PART NUMBER |
|---|---|---|---|
| WITH | .016/.011 | 26.5 | 9854-0781-6215 |
| WITH | .021/.017 | 26.5 | 9854-0781-6220 |
| WITHOUT | .016/.011 | 26.5 | 9854-0081-6215 |
| WITHOUT | .021/.017 | 26.5 | 9854-0081-6220 |

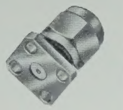


.527/.487
.008 MIN.
.222
EMI GASKET (OPTIONAL)
FEMALE SOCKET CONTACT ACCEPTS .021/.017 DIA. × .100 MAX. LG. PIN
.481
.625 DIA.
5/16 HEX
.065
.106/.100 DIA. THRU 2 HOLES

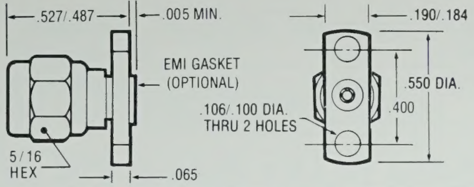


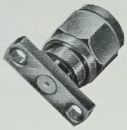
| EMI GASKET | ACCEPTS PIN DIA. | MAX. FREQ. GHZ | PART NUMBER |
|---|---|---|---|
| WITH | .016/.011 | 26.5 | 9852-0781-6215 |
| WITH | .021/.017 | 26.5 | 9852-0781-6220 |
| WITHOUT | .016/.011 | 26.5 | 9852-0081-6215 |
| WITHOUT | .021/.017 | 26.5 | 9852-0081-6220 |





| EMI GASKET | ACCEPTS PIN DIA. | MAX. FREQ. GHZ | PART NUMBER |
|---|---|---|---|
| WITH | .016/.011 | 26.5 | 9854-0781-6217 |
| WITH | .021/.017 | 26.5 | 9854-0781-6227 |
| WITHOUT | .016/.011 | 26.5 | 9854-0081-6217 |
| WITHOUT | .021/.017 | 26.5 | 9854-0081-6227 |





| EMI GASKET | ACCEPTS PIN DIA. | MAX. FREQ. GHZ | PART NUMBER |
|---|---|---|---|
| WITH | .016/.011 | 26.5 | 9852-0781-6214 |
| WITH | .021/.017 | 26.5 | 9852-0781-6224 |
| WITHOUT | .016/.011 | 26.5 | 9852-0081-6214 |
| WITHOUT | .021/.017 | 26.5 | 9852-0081-6224 |

## GENERAL DESIGN SPECIFICATIONS

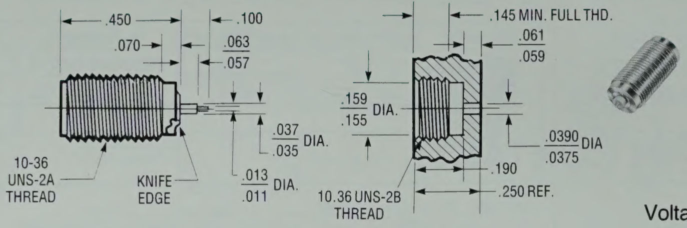
| | |
|---|---|
| Interface Dimensions: | MIL-C-39012/SMA Series |
| Frequency Range: | DC to 26.5 GHz<br>DC to 46.0 GHz 6290 & 6294 Types |
| VSWR, maximum: | 1.05 + .006 × FGHz |
| Insertion Loss, db maximum: | .03 db × $\sqrt{\text{FGHz}}$ |
| Captivated, contact and insulator: | 6.0 lbs. minimum |
| RF Leakage, minimum db down: | 100 db − FGHz |
| Temperature Range: | −65 °C to +165 °C |

## MATERIALS AND FINISHES

Body: Stainless steel; passivated
Contact: Beryllium copper, heat treated; gold-plated
Insulator: Teflon®
EMI Gasket: Silver-plated aluminum in silicon

# SSMA CONNECTORS

## HERMETICALLY SEALED SPARK PLUG

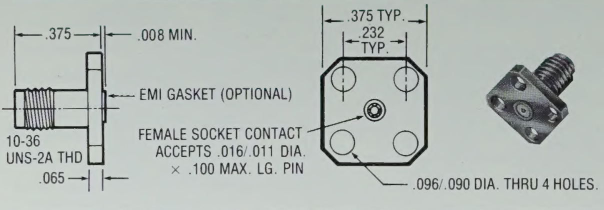


**PART NUMBER 9330-0431-6460**

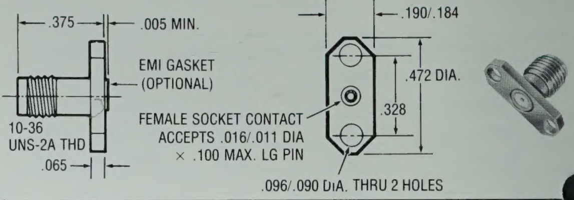
### GENERAL DESIGN SPECIFICATIONS

Interface Dimensions: MD 93
(mates with standard SSMA & OSSM* types)
VSWR, maximum: 1.05 + .006 × FGHz
Frequency Range: DC to 38 GHz
Insertion Loss, db maximum: .05 db × $\sqrt{\text{FGHz}}$
Nominal Impedance; 50 ohms
Voltage Rating, maximum VRMS: 250
RF Leakage, db minimum: 100 – FGHz
Temperature Rating: –65°C to +165°C

## SSMA JACK (FEMALE SOCKET CONTACT)

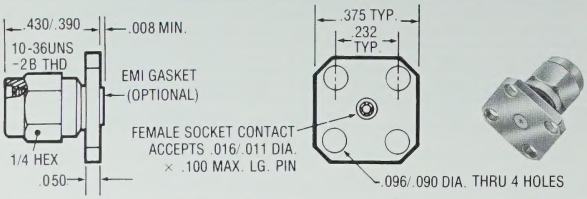


| EMI GASKET | ACCEPTS PIN DIA. | MAX. FREQ. GHZ | PART NUMBER |
|---|---|---|---|
| WITH | .016/.011 | 46.0 | 9754-0781-6215 |
| WITHOUT | .016/.011 | 46.0 | 9754-0081-6215 |

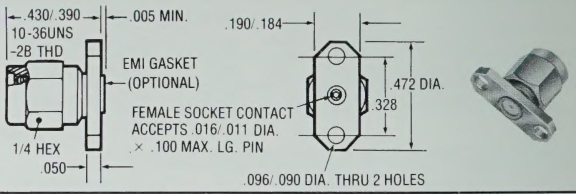


| EMI GASKET | ACCEPTS PIN DIA. | MAX. FREQ. GHZ | PART NUMBER |
|---|---|---|---|
| WITH | .016/.011 | 46.0 | 9752-0781-6215 |
| WITHOUT | .016/.011 | 46.0 | 9752-0081-6215 |

## SSMA PLUG (MALE PIN CONTACT)



| EMI GASKET | ACCEPTS PIN DIA. | MAX. FREQ. GHZ | PART NUMBER |
|---|---|---|---|
| WITH | .016/.011 | 46.0 | 9654-0781-6215 |
| WITHOUT | .016/.011 | 46.0 | 9654-0081-6215 |



| EMI GASKET | ACCEPTS PIN DIA. | MAX. FREQ. GHZ | PART NUMBER |
|---|---|---|---|
| WITH | .016/.011 | 46.0 | 9652-0781-6215 |
| WITHOUT | .016/.011 | 46.0 | 9652-0081-6215 |

### GENERAL DESIGN SPECIFICATIONS

Interface Dimensions: MD 96-46 & MD 97-46
(mates with standard SSMA & OSSM types)
Frequency Range: DC to 46.0 GHz
VSWR, maximum: 1.05 + .008 × FGHz
Insertion Loss, db maximum: .035 db × $\sqrt{\text{FGHz}}$
Captivated, contact and insulator: 6.0 lbs. minimum
RF Leakage, minimum db down: 100 db – FGHz
Temperature Range: –65 °C to +165 °C

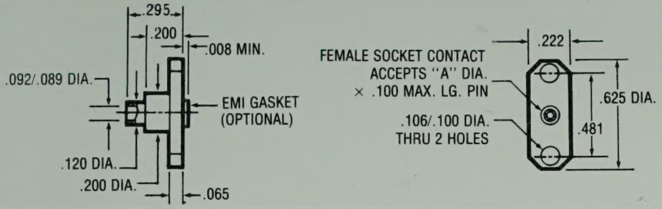
### MATERIALS AND FINISHES

Body: Stainless steel; passivated
Contact: Beryllium copper, heat treated; gold-plated
Insulator: Teflon®
EMI Gasket: Silver-plated aluminum in silicon

*Trademark of M/A-COM Omni Spectra, Inc.

# NON-CONNECTOR TYPE

## .085 SEMI-RIGID CABLE • DIRECT ATTACHMENT

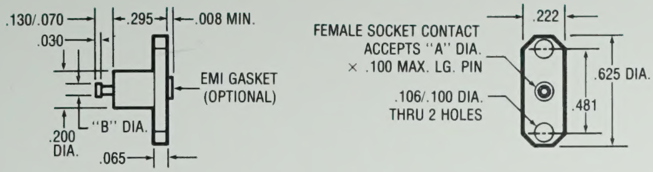


| EMI GASKET | DIA. "A" | MAX. FREQ. GHZ | MAX. VSWR | PART NUMBER |
|---|---|---|---|---|
| WITH | .016/.011 | 36.0 | 1.05 + .006 × FGHz | 6952-8527-2715 |
| WITH | .021/.017 | 36.0 | 1.05 + .006 × FGHz | 6952-8527-2720 |
| WITHOUT | .016/.011 | 36.0 | 1.05 + .006 × FGHz | 6952-8520-2715 |
| WITHOUT | .021/.017 | 36.0 | 1.05 + .006 × FGHz | 6952-8520-2720 |

### MATERIALS AND FINISHES

| | |
|---|---|
| Flange Body: | Brass; nickel-plated |
| Contact: | Beryllium copper, heat treated; gold-plated |
| Insulator: | Teflon |
| EMI Gasket: | Silver-plated aluminum in silicon |

## RF SUPPRESSION FILTER AND DC FEEDTHROUGH


.130/.070
.030
.295
.008 MIN.
EMI GASKET (OPTIONAL)
"B" DIA.
.200 DIA.
.065
FEMALE SOCKET CONTACT ACCEPTS "A" DIA. × .100 MAX. LG. PIN
.106/.100 DIA. THRU 2 HOLES
.222
.625 DIA.
.481

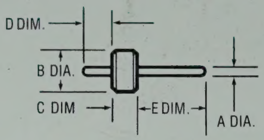
| EMI GASKET | DIA. "A" | FILTER CAP. MIN. | FEEDTHROUGH CURRENT MAX. | B DIA. | PART NUMBER |
|---|---|---|---|---|---|
| WITH | .016/.011 | 2,000 pFd | – | .065 | 6652-0789-2715 |
| WITH | .016/.011 | – | 15 AMPS | .050 | 6452-0789-2715 |
| WITH | .021/.017 | 2,000 pFd | – | .065 | 6652-0789-2720 |
| WITH | .021/.017 | – | 15 AMPS | .050 | 6452-0789-2720 |
| WITHOUT | .016/.011 | 2,000 pFd | – | .065 | 6652-0089-2715 |
| WITHOUT | .016/.011 | – | 15 AMPS | .050 | 6452-0089-2715 |
| WITHOUT | .021/.017 | 2,000 pFd | – | .065 | 6652-0089-2720 |
| WITHOUT | .021/.017 | – | 15 AMPS | .050 | 6452-0089-2720 |

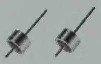
### MATERIALS AND FINISHES

| | |
|---|---|
| Flange Body: | Brass; nickel-plated |
| Contact: | Beryllium copper, heat treated; gold-plated |
| Insulator: | Teflon |
| EMI Gasket: | Silver-plated aluminum in silicon |

# ACCESSORIES

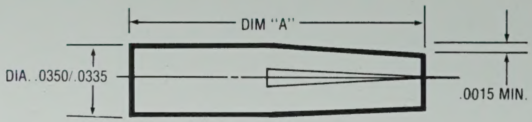
## 50-OHM GLASS SEAL FEEDTHROUGH





| DIA. "A" | DIA. "B" | DIM. "C" | DIM. "D" | DIM. "E" | MATERIAL | MAX. FREQ. GHZ | FINISH | PART NUMBER |
|---|---|---|---|---|---|---|---|---|
| .013/.011 | .100/.097 | .065/.060 | .080/.065 | .190/.170 | KOVAR | 37.0 | GOLD OVER NICKEL | 455-02-012 |
| .013/.011 | .078/.075 | .071/.067 | .060/.050 | .190/.170 | KOVAR | 46.0 | | 455-02-042 |
| .016/.014 | .100/.097 | .065/.060 | .080/.065 | .190/.170 | KOVAR | 39.0 | | 455-02-015 |
| .019/.017 | .113/.110 | .065/.060 | .080/.065 | .190/.170 | KOVAR | 30.0 | | 455-02-018 |
| .021/.019 | .159/.156 | .061/.059 | .065/.055 | .075/.065 | KOVAR | 20.0 | | 455-02-024 |

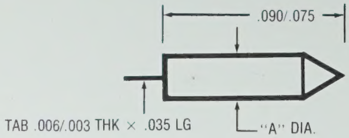
## FEMALE SOCKET CONTACT



| DIM. "A" | ACCEPTS PIN DIA. | MATERIAL | FINISH | PART NUMBER |
|---|---|---|---|---|
| .104/.100 | .016/.011* | BERYLLIUM COPPER HEAT TREATED | GOLD | 366-97-016 |
| .104/.100 | .021/.017* | | GOLD | 366-97-021 |
| .139/.135 | .016/.011 | | GOLD | 366-97-015 |
| .139/.135 | .021/.017 | | GOLD | 366-97-020 |

*THRU HOLE

## MALE PIN CONTACT • WITH TAB



| DIA. "A" | MATERIAL | FINISH | PART NUMBER |
|---|---|---|---|
| .016/.014 | BERYLLIUM COPPER | GOLD | 366-96-015 |
| .021/.019 | | GOLD | 366-96-020 |

### HOW TO ORDER

Orders may be placed with our sales representative in your area or direct to our sales department in Georgetown, MA. When ordering, specify the Dynawave part number and description of the item. If special features are ordered, describe them fully, and Dynawave will assign a special part number on receipt of the order. Terms are net 30 days, and shipping charges are f.o.b. Georgetown, MA.

### WARRANTY

The seller warrants that, at the time of shipment, the products manufactured by the seller are free from defects in material and workmanship. The seller's obligation under this warranty is limited to replacement or repair of such products within one year from the date of shipment.

The seller is in no event liable for consequential damages, installation cost or other costs of any nature as a result of the use of the products manufactured by the seller, whether used in accordance with instructions or not.

This warranty is in lieu of all others, either expressed or implied including, but not limited to, any implied warranty or merchantability or fitness for a particular purpose. No representative is authorized to assume for the seller any other or additional liability in connection with the seller's products.

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